

**WS1: Interdisciplinary Practices. What, Why, How? - invited: Edwin Zaccai (ULB)**  
**- short summary by Muriel Lepère**

**Presentation by Edwin Zaccai**

- Short presentation
  - Applied sciences in physics, Master in Philosophy, PhD in environmental science (PhD on political aspects of sustainable development)
  - Professional experience in the private sector and in an environmental NGO (Inter-Environnement Wallonie)
  - Direction of Centre d'Etudes du Développement Durable (ULB)
  - One specific trajectory in interdisciplinarity, as well as transdisciplinarity
- What?
  - Difference between *multi- or pluri-disciplinarity* (addition of several disciplines without intersection), *interdisciplinarity* (several disciplines with intersections) and *transdisciplinarity* (thematic with non-specialist interventions).
  - Discipline is not fixed, but external factors fix a discipline (diploma ...). Some disciplines are “naturally less open”. Teaching is usually more attached to a discipline than research.
  - The interdisciplinarity work requires “translators”!
  - Applied work needs interdisciplinarity and thus, translation.
  - 2 approaches: a *large scale* with a series of questions which influence the structure of knowledge, and a *limited scale* with a question which guides the choices, the structure.
- Why?
  - Mode 2 (interrelations between several spheres of knowledge) for the diffusion of knowledge tends to be more frequent than Mode 1 (within academic disciplines).
  - A lot of funding agencies ask now for interdisciplinary research!
  - The university is less a hegemonic center for producing (high quality) knowledge!
  - To communicate the importance of academic work outside the alma mater often requires a distance with a pure disciplinary approach.
  - Some problems are difficult to understand within the limits of one discipline.
  - Curiosity: Some individuals are more prone to learn outside of their “comfort zone” It needs time, lifelong learning.
- However, ...
  - Disciplines favor careful controls by peers, fine tuning, mastering of references and authors.
  - The rigor is normally led by existing modalities of knowledge making
  - Their role in the development of knowledge remain central.
  - Interdisciplinarity: peers are difficult to find (many "trajectories", always incomplete interdisciplinarity) and difficulties appear in evaluation of interdisciplinary research.

- How?
  - 6 profiles:
    1. Disciplinary identity: hyper specialization
    2. Thematic identity: ex. on development
    3. Hybrid identity: ex. double diploma
    4. Interdisciplinary migrant: from one approach to another (often within the same theme)
    5. Interdisciplinary native: started from the beginning of his/her career
    6. A-disciplinarity: no discipline defined or "un-disciplined" ("amateur" vs "experts")
  - In many cases, applied research is a driver
  - Careful agreement on the definition of concepts and questions is needed.
  - Time is needed! The method can be more erratic, less planned from the beginning, and this is not necessary easy to combine with a pressure for publishing. The creativity is needed!
  - No fixed procedure to articulate disciplines. The research question is important to drive such an articulation. Avoid systematic stack of disciplines, with no internal link or necessity
  - May be difficult for young researchers, especially if they are in disciplinary teams.
  - The evolution of academic learning and institutions will be key to promote (or not) interdisciplinarity!

### Round table and discussion

- It is sometimes difficult to define a discipline, for example in biology, ecology and microbiology.
- Translators are really required.
- Some scientific journals are devoted to the interdisciplinarity, and can thus help researchers to publish relatively fast.
- What are the success factors (and/or the risks to avoid)?
  - to have a good dialogue
  - to take time at the beginning
  - to know each other
  - to have applied projects
- Time for coordination is also required.
- When financial support asks the interdisciplinarity or applications, the researchers begin. To impose allows to go there!
- The interdisciplinarity and applied research are ultimately closely linked.
- The interdisciplinarity is often more important in human sciences than in natural sciences.
- New hybrid disciplines appear, as agroecology.
- The employers, outside the academic community, are often very interested in an interdisciplinary profile. For this reason, new cursus appears as the master in *Smart Rurality*.

- Young researchers think that a high level in a pure discipline is required to obtain a job. It is often true for academic jobs, but not for other jobs.
- The interdisciplinarity progress also in the universities, even in natural sciences faculties (For ex: Master in Environment, in Smart Rurality ... , research institutes as ILEE...).

### **Conclusion**

The interdisciplinarity, and moreover transdisciplinarity, remain a challenge for universities. Without wanting to impose it on everyone, it should be favored by universities to open up more to the world around them and play their full role in society. For this, our university could explicitly promote a percentage of interdisciplinary projects in internal calls, knowing that funders like the FNRS will continue to fund very disciplinary research while others require applied research and therefore inter or transdisciplinaires.